

NOTES ON THE GENUS *XOLOCOTZIA* (VERBENACEAE)

Harold N. Moldenke

This is the 66th genus on which bibliographic and herbarium notes, assembled by my wife, Alma L. Moldenke, and myself over the past 52 years, are being published in the present journal. Herbarium acronyms herein employed are the same as used in all previous papers of this series in this journal (and some other journals) and are most recently fully explained in *Phytologia Memoirs* 2: 463--469 (1980).

*XOLOCOTZIA* Miranda, *Bol. Soc. Bot. Mex.* 29: 39--40. 1965.

Bibliography: Miranda, *Bol. Soc. Bot. Mex.* 29: 39--42 & 47, fig. 3. 1965; Guzman, *Biol. Abstr.* 47: 3296. 1966; Mold., *Fifth Summ.* 1: 77 (1971) and 2: 755 & 931. 1971; Airy Shaw in J. C. Willis, *Dict. Flow. Pl.*, ed. 8, 1233. 1973; Heslop-Harrison, *Ind. Kew. Suppl.* 15: 144 & 151, 1974; Mold., *Phytol. Mem.* 2: 4, 69, & 596. 1980.

Erect scabrous shrubs with rigid bulbous-based hairs; leaves decussate-opposite, deciduous, simple, exstipulate, very short-petiolate, the blades penninerved, marginally entire; flowers borne in opposite fashion on short terminal racemes and in the axils of bracts, subactinomorphic, short-pedicellate; bracts small, deciduous; calyx gamosepalous, inferior, broadly tubular, 5-lobed, the lobes slightly unequal, costate, with broad sinuses, apically rounded, internally glabrous, unchanged in fruit; corolla gamopetalous, subhypocrateriform, white or blue, with violet-colored veins, longer than the calyx, the tube short, apically slightly infundibular, the limb 5-parted, the lobes subequal, oblong-obovate, quincuncial, apically rounded; stamens 4, subequal, attached to the middle of the corolla-tube; anthers oblong, slightly exserted, dorsifixed, the 2 thecae parallel, introrse, the connective unappendaged; staminodes absent; annular disk flat or partially concave; pistil single, slightly zygomorphic, terminal; style short, cylindrical, apically hardly thickened; stigma small, subcapitate, slightly oblique; ovary 1-celled or imperfectly 2-celled; placentae 2, lamellate, more or less in juxtaposition; ovules 2, attached laterally near the apex of the placentae, pendulous.

Type species: *Xolocotzia asperifolia* Miranda.

As far as is known now, this is a monotypic genus endemic to Chiapas, Mexico, the flowers at first glance strikingly resembling those of *Petrea*, but with a non-acrescent calyx.

Miranda (1965) asserts that "El género *Xolocotzia* está muy estrechamente relacionado con el género *Petrea*, del cual de distingue, entre otras caracteres, por la falta de cresta intracalicial....y por poseer cáliz deciduo, no acrescente. No obstante, la similitud entre ambos géneros es tanta, que aun caracteres relativamente poco importantes, como las hojas ásperas con pelos

rígidos bulbosos o las bases de los mismos, se encuentran en los dos géneros. Parece natural pensar que el género *Xolocotzia* constituye parte del primitivo grupo de formas de donde derivó el especializado género *Petrea*. La marcada especialización de este último está bien señalada por los caracteres indicados que faltan en el primero, como el desarrollo de la cresta intracalicular, que, en la madurez del fruto, brinda protección a está y a las semillas, manteniéndolas en su lugar, y por el carácter acrescente del cáliz, especialmente de sus lóbulos, que en la madurez del fruto constituyen un eficiente aparato volador. Las ventajas proporcionadas a la planta por las características mencionadas han contribuido, con toda probabilidad, de un modo decisivo a la gran difusión del género *Petrea* en América tropical [and also its rapid naturalization elsewhere]. En cambio, el género *Xolocotzia* parece ser un elemento residual, con una reducida área, de un grupo primitivo de formas."

The genus is named in honor of Efraim Hernández Xolocotzi, a Mexican botanist well known for his contributions in the fields of economic botany and phytoecology and his part in the founding of the botanical departments in agricultural schools in Mexico.

*XOLOCOTZIA ASPERIFOLIA* Miranda, Bol. Soc. Bot. Mex. 29: 40--42 & 47, fig. 3. 1965.

Bibliography: see that for the genus as a whole (above).

Illustrations: Miranda, Bol. Soc. Bot. Mex. 29: 47, fig. 3. 1965.

An erect asperous shrub, 2--2.5 m. tall; branches grayish-white, the youngest parts hispid-pubescent; petioles very short, 1--1.5 mm. long, hispid-pubescent; leaf-blades subcoriaceous, obovate or oblong-obovate, 3.5--5.7 cm. long, 1.5--2.5 cm. wide, apically obtuse, rounded, or retuse, marginally entire, basally cuneate; midrib prominulent above, prominent beneath; secondaries 6--8, prominulent beneath, sparsely hispid-pubescent toward the base above; racemes short, the rachis 1--1.5 cm. long; bracts pale, 1--2 mm. long, striate; pedicels short, to 5 mm. long, pubescent; calyx-tube 2.5--3 cm. long, 2--2.5 mm. wide, densely pubescent, the lobes suberect, linear-spatulate, 3.5--5 mm. long, 0.5--0.7 mm. wide, apically obtuse, with a prominent midrib externally, the sinuses 1 mm. wide; corolla-tube 3--4 mm. long, 2--2.5 mm. wide, glabrous, the limb 2.1--2.2 cm. wide, the lobes about 8 mm. long, 4.5--6.5 mm. wide; filaments 1.5--2 mm. long; anthers 1.2 mm. long; ovary 1.5 mm. long, apically short-pubescent.

This species, the type species of the genus, is based on *Miranda* 5319, from a low deciduous woods "sobre suelos calizos someros...declive de orientacion Sur" about 7 km. north of Tuxtla Gutierrez, at 900 m. altitude, Chiapas, Mexico, collected in flower on June 5, 1949, and deposited in the herbarium of the Universidad Nacional in Mexico City. *Miranda* (1965) cites also *Miranda* 5903, from the slopes of a barranca, at 470 m. altitude, in the same state. As far as known to me, the species is known thus far only from these two collections.

Citations: MEXICO: Chiapas: *Miranda* 5319 (Me--69313--type, Me--173592--isotype), 5903 (Me--173606). MOUNTED ILLUSTRATIONS: *Miranda*, Bol. Soc. Bot. Mex. 29: 47, fig. 3. 1965 (Z).

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NOTES ON THE GENUS *ADELOSA* (VERBENACEAE)

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Lack of time this late in life prevents me from completing the detailed monograph of this genus contemplated and earlier announced, but it seems worthwhile to place on record here the bibliographic and herbarium notes assembled over the past 52 years of work on this family of plants by my wife, Alma L. Moldenke, and myself. It is the 67th genus thus far treated in this series of papers in this (and some other) journals. The herbarium acronyms employed are the same as used in all my previous papers in *Phytologia* and are fully explained in *Phytologia Memoirs* 2: 463--469 (1980) and previously elsewhere.

*ADELOSA* Blume, Ann. Mus. Bot. Lugd.-bat. 1: 176. 1850.

Bibliography: Blume, Ann. Mus. Bot. Lugd.-bat. 1: 176. 1850; Walp., Ann. Bot. Syst. 3: 234. 1852; Bocq., *Adansonia*, ser. 1, 2: 91 (1862) and 3: 181. 1863; Pfeiffer, Nom. Bot. 1 (1): 49. 1873; Benth. in Benth. & Hook., Gen. Pl. 2 (2): 1153. 1876; Baill., Hist. Pl. 11: 115. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 37. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 140, 142, 169, & 170. 1895; Post & Kuntze, Lexicon 9 & 688. 1904; Thonner, Flow. Pl. Afr. 470. 1915; Junell, Symb. Bot. Upsal. 1 (4): 84. 1934; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 84. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 37. 1946; Mold., Alph. List Inv. Names Suppl. 1: [1]. 1947; H. N. & A. L. Mold., Pl. Life 2: 32. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 123 & 174. 1949; Angely, Cat. Estat. Bot. Fan. 17: 2. 1956; Mold. in Humbert, Fl. Madag. 174: 4 & 48--49. 1956; Mold., Résumé 155, 227, 409, & 940. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 37. 1960; Dalla Torre & Harms, Gen. Siphonog., imp. 2, 432. 1963; F. A. Barkley, List Ord. Fam. Anthoph. 76 & 136. 1965; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 7, 20. 1966; Rouleau, Guide Ind. Kew. 6 & 352. 1970; Mold., Fifth Summ. 1: 259 & 377 (1971) and 2: 758 & 844. 1971; Airy Shaw in J. C. Willis, Dict. Flow. Pl., ed. 8, 20. 1973; Mold., Phytol. Mem. 2: 248 & 519. 1980.

A many-branched glabrous shrub; leaves decussate-opposite, small, short-petiolate, deciduous, simple, exstipulate, cuneate-oblong or obovate, marginally entire, apically remotely serrate; inflorescence cymose, determinate, centrifugal, terminal; flowers complete, perfect, few, subsessile, borne in the axils of subu-